

ABSTRACT OF THE DISCLOSURE

An evanescent field based sensor uses a detector for sensing variations in properties of a fluid flowing in a boundary layer adjacent to the detector. The detector comprises an optical waveguide in the form of an optical fiber having a core layer covered by a cladding layer and having a substantially D-shaped cross section defining a planar surface with an optical grating pattern thereon. When a beam of laser light is directed through the detector as an input, variations in an output of the beam of laser light are indicative of changes in fluid pressure or density in the boundary layer or immediate region adjacent to the grating of the optical waveguide.